

C. W. BELL.
TOOL FOR OIL AND LIKE WELLS.
APPLICATION FILED OCT. 17, 1911.

1,036,547.

Patented Aug. 27, 1912.

FIG. 1

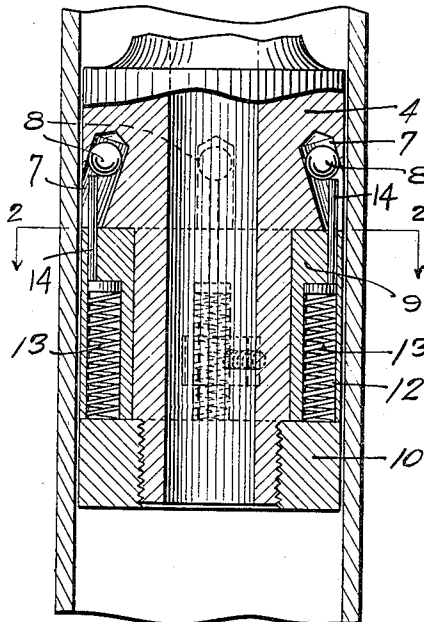


FIG. 2

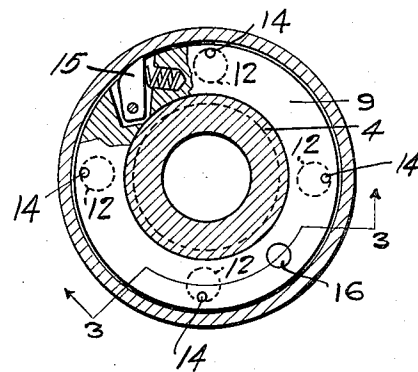


FIG. 4

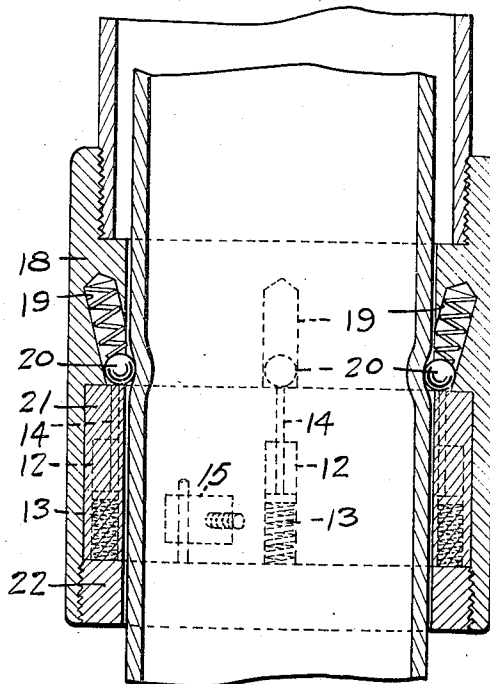
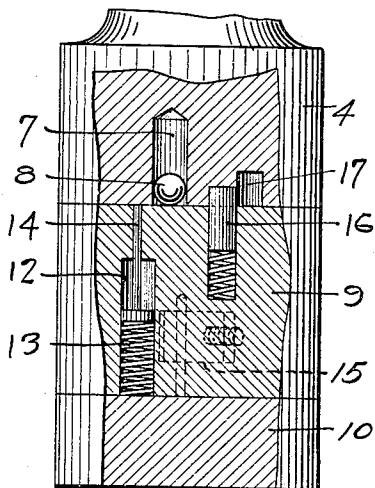


FIG. 3



WITNESSES.

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TOOL FOR OIL AND LIKE WELLS.

1,036,547.

Specification of Letters Patent.

Patented Aug. 27, 1912.

Application filed October 17, 1911. Serial No. 655,246.

To all whom it may concern:

Be it known that I, CHARLES W. BELL, a citizen of the United States, and resident of Bartlesville, in the county of Washington and State of Oklahoma, have invented a new and useful Improvement in Tools for Oil and Like Wells; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to tools for use in connection with oil, gas or like deep-wells.

The object of my invention is to provide a tool which is simple in construction and economical in operation, and whereby a secure grip is obtained upon the object to be removed from the well, whether applied to the inside or outside of same. In other words, the invention may be applied to all tools where slips are now used, such as slip-sockets, combination sockets, casing-spears, tubing-spears and sucker-rod sockets.

To these ends my invention comprises the novel features hereinafter set forth and claimed.

In the accompanying drawings Figure 1 is a sectional view of a portion of casing with my invention applied thereto. Fig. 2 is a cross sectional view; Fig. 3 is a section showing the tripping mechanism; and Fig. 4 shows a modified form of my invention.

Referring to the drawings, the numeral 3 designates a portion of a suitable casing.

Formed in the body 4 are the inclined pockets or recesses 7 which contain the balls 8. These balls are of hardened steel so as to give the necessary resisting force when the tool is operated to cause said balls to bite into or indent the casing as fully hereinafter set forth. The balls 8 are introduced into the pockets 7 and a sleeve 9 is then applied to the body portion 4 to hold said balls in position. Said balls are adapted to protrude beyond the pockets a certain distance and this is arranged so that a little less than half of the ball is allowed to protrude through the opening at the lower end of the pocket. The sleeve 9 is then secured in place by the collar 10 which is screwed onto the lower-end of the tool.

The sleeve 9 is provided with the recesses 12 to receive the springs 13. These springs engage the fingers 14 which extend up through the said body portion and tend to normally force said fingers upwardly. The sleeve 9 is further provided with the spring pressed pawl 15 which is adapted to engage

the inner wall of the casing and hold said sleeve stationary while the body portion 4 is rotated. By rotating the body portion the pockets 7 are brought around to register with the fingers 14 and just as soon as this occurs the springs 13 force said fingers upwardly and lift the balls 9 to the position indicated in Fig. 1. In this manner after the tool has been lowered into the well and it is desired to lift the same again, the balls are thrown out of operative position by turning the body portion 4, the sleeve 9 being held against turning by the pawl 15 until the fingers 14 are brought into register with the pockets 7, whereupon said fingers will be forced up by the springs 13 and the balls held up within the pockets in such position that the tool can be raised from the well without gripping. The spring actuated belt 16 in the sleeve 9 is adapted to engage the elongated slot 17 in the body 4 and this bolt is moved along the slot 17 when the body 4 is turned.

In the operation of my invention, the tool is lowered into the casing 3, and as it descends the ball 8 will roll up within the pocket 7 so that the tool may be lowered without undue friction. When the tool has been lowered to the proper position in the well by pulling up on the tool the balls 8 will be forced out through the openings at the lower ends of the pockets and they will act to indent the inner wall of the casing and obtain a grip so that when the tool is raised the casing is raised with it. As stated above these balls are made of hardened steel so that they will not be distorted or crushed by the metal of the casing, but on the other hand will bite into or indent the casing in the way illustrated and described. In this way I provide a very secure and strong grip upon the casing so that the harder the upward pull on the tool the tighter the grip becomes.

In Fig. 4 I have illustrated my invention in connection with a tool to be applied to the outside of the casing and in this case the body portion 18 has a bore of sufficient size to encircle the casing. The body portion 18 is provided with pockets 19 and with the balls 20 as above described. The sleeve 21 is inserted within the body portion 18 and the sleeve is held in place by the ring 22. In this connection the tool is lowered into the well so as to encircle the casing and when in proper position the tool is lifted and the

balls grip the casing on the outside instead of on the inside as above set forth. This also gives a very secure hold on the casing and this is increased by the upward force
5 applied in lifting the casing.

What I claim is:

In tools for oil or like wells, a body portion, inclined pockets formed therein, balls in said pockets, a sleeve engaging said body
10 portion, means for holding said sleeve

against rotation, and spring actuated fingers carried by said sleeve adapted to register with said pockets by the turning of said body portion.

In testimony whereof, I the said CHARLES 15 W. BELL have hereunto set my hand.

CHARLES W. BELL.

Witnesses:

A. B. DEHUER,

J. J. LARKIN.
